

**PATENT COOPERATION TREATY**

**PCT**

**INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**  
(Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

Applicant's or agent's file reference PHGB030175	<b>FOR FURTHER ACTION</b>		See item 4 below
International application No. PCT/IB2004/051927	International filing date ( <i>day/month/year</i> ) 30 September 2004 (30.09.2004)	Priority date ( <i>day/month/year</i> ) 04 October 2003 (04.10.2003)	
International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237			
Applicant KONINKLIJKE PHILIPS ELECTRONICS N.V.			

1. This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 bis.1(a).

2. This REPORT consists of a total of 7 sheets, including this cover sheet.

In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.

3. This report contains indications relating to the following items:

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Box No. I | Basis of the report   |
| <input type="checkbox"/> Box No. II           | Priority  |
| <input type="checkbox"/> Box No. III          | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability  |
| <input type="checkbox"/> Box No. IV           | Lack of unity of invention  |
| <input checked="" type="checkbox"/> Box No. V | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/> Box No. VI           | Certain documents cited   |
| <input type="checkbox"/> Box No. VII          | Certain defects in the international application  |
| <input type="checkbox"/> Box No. VIII         | Certain observations on the international application   |

4. The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis .2).

Date of issuance of this report 10 April 2006 (10.04.2006)
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Authorized officer
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Form PCT/IB/373 (January 2004)

# PATENT COOPERATION TREATY

From the  
INTERNATIONAL SEARCHING AUTHORITY

To:

see form PCT/ISA/220

14/9

REC'D	14 FEB 2005
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## WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Applicant's or agent's file reference  
see form PCT/ISA/220

Date of mailing  
(day/month/year) see form PCT/ISA/210 (second sheet)

International application No.  
PCT/B2004/051927

International filing date (day/month/year)  
30.09.2004

Priority date (day/month/year)  
04.10.2003

International Patent Classification (IPC) or both national classification and IPC  
H04N13/00

Applicant

KONINKLIJKE PHILIPS ELECTRONICS N.V.

### 1. This opinion contains indications relating to the following items:

- Box No. I Basis of the opinion
- Box No. II Priority
- Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- Box No. IV Lack of unity of invention
- Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability: citations and explanations supporting such statement
- Box No. VI Certain documents cited
- Box No. VII Certain defects in the international application
- Box No. VIII Certain observations on the international application

### 2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

### 3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



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**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
PCT/IB2004/051927

**Box No. I Basis of the opinion**

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).

2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

a. type of material:

- a sequence listing  
 table(s) related to the sequence listing

b. format of material:

- in written format  
 in computer readable form

c. time of filing/furnishing:

- contained in the international application as filed.  
 filed together with the international application in computer readable form.  
 furnished subsequently to this Authority for the purposes of search.

3.  In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
PCT/IB2004/051927

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**Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or  
industrial applicability; citations and explanations supporting such statement**

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**1. Statement**

Novelty (N)	Yes: Claims	1-28
	No: Claims	
Inventive step (IS)	Yes: Claims	
	No: Claims	1-28
Industrial applicability (IA)	Yes: Claims	1-28
	No: Claims	

**2. Citations and explanations**

**see separate sheet**

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING  
AUTHORITY (SEPARATE SHEET)**

International application No.

PCT/IB2004/051927

**Re Item V.**

- 1 The following documents are referred to in this communication:  
D1 : US 2002/001128 A1 (MOSELEY RICHARD ROBERT ET AL) 3 January 2002 (2002-01-03)  
D2 : US 4 319 237 A (MATSUO ET AL) 9 March 1982 (1982-03-09)
- 2 Although claims 27 and 28 have been drafted as separate independent claims, they appear to relate effectively to the same subject-matter and to differ from each other only with regard to the definition of the subject-matter for which protection is sought ..and/or.. in respect of the terminology used for the features of that subject-matter. The aforementioned claims therefore lack conciseness and as such do not meet the requirements of Article 6 PCT
- 3 INDEPENDENT CLAIMS 1, 18, 27 AND 28

The present application does not meet the criteria of Article 33(1) PCT, because the subject matter of claims 1, 18, 27 and 28 does not involve an inventive step in the sense of Article 33(3)PCT.

- 3.1 Document D1, which is considered to represent the most relevant state of the art to the subject matter of claim 1, discloses (the references in parentheses applying to this document):

a display device for displaying a three dimensional image such that different views are displayed according to the viewing angle, the display device including (D1: par.[0001]):

a display panel having a plurality of separately addressable pixels for displaying said image, the pixels being grouped such that different pixels in a group correspond to different views of the image (D1: fig.5; par.[0006]-[0008] and par.[0130]-[0132]);

a display diver for controlling an optical characteristic of each pixel to generate a

grey scale image according to received image data (D1: implicit).

- 3.2 The subject-matter of independent claim 1 differs from the disclosure of D1 in that said display device further includes:

a grey scale compensation device for further controlling said optical characteristic of at least some pixels within a group to compensate for a predetermined viewing angle dependency of said optical characteristic.

- 3.3 The problem to be solved by the present invention may therefore be regarded as that the light transmission coefficient of each pixel in the LCD panel is dependent upon the viewing angle. Thus the viewed intensity will appear different for different views (present application: p.2, l.14-19). Said problem is also identified in D1 (D1: par.[0185]).

- 3.4 In view of D2 the solution proposed in claim 1 of the present application cannot be considered as involving an inventive step (Article 33(3) PCT) because the problem and the solution are already known as explained in the following.

In D2 the observation that the light transmission coefficient of each pixel in the LCD panel is strongly dependent upon the viewing angle has already been made. To compensate for said viewing angle characteristics of an LCD panel the modulation of the video signals have been employed, see document D2, column 1, line 44 to column 2 , line 3. By this the optical characteristic of at least some pixels is controlled.

This means that the person skilled in the art would consider D2, namely when the same result is to be achieved, by applying these features to each pixel of the LCD display of document D1. By this a grey scale performance in said LCD display would be kept independent of the viewing angle, thereby arriving at a display device according to claim 1.

- 3.5 Therefore the features disclosed in D1 and D2 would be combined by the skilled person, without exercise of any inventive skills in order to solve the problem posed. The proposed solution in independent claim 1 thus cannot be considered inventive (Article 33(3) PCT).

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING  
AUTHORITY (SEPARATE SHEET)**

International application No.

PCT/IB2004/051927

3.6 The same reasoning applies, mutatis mutandis, to the subject-matter of the corresponding independent claims 18, 27 and 28, which therefore are also considered not inventive.

**4 DEPENDENT CLAIMS 2-17, 19-26**

Dependent claims 2-17, 19-26 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step (Article 33(2) and (3) PCT).

Especially, said claims refer basically to design options concerning the illumination source, a lenticular array or the colour compensation method and are either known from D1 or D2 or technical adaptions that lie in the capability of a person skilled in the art.